*The Gasteromycetes of Australasia, XVIII.

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DURING the preparation of the manuscript for a forthcoming book on the Gasteromycetes of Australia and New Zealand, the following undescribed species have been isolated and described. Several new combinations have also been made necessary through critical revision of the genera occurring in this region.

Octaviania clelandi (Rodway) n. comb.

Hydnangium clelandi Rodw., *Proc. Royal Soc. Tasmania,* 1923, p. 108, 1924.

Type-locality: Cascade Valley, Hobart, Tasmania.

Octaviania hinsbyi (Rodway) n. comb.

Hydnangium hinsbyi Rodw., *Proc. Royal Soc. Tasmania,* 1923, p. 158, 1924.

Type-locality: West Coast, Tasmania.

Octaviania seminuda (Massee and Rodway) n. comb.

Gymnomyces seminudus Mass. and Rodw., *Kew Bull. Misc. Inf.,* p. 125, 1898.

Type-locality: Cascades, Hobart, Tasmania.

Octaviania flava (Rodway) n. comb.

Gymnomyces flavuus Rodw., *Proc. Royal Soc. Tasmania,* 1917, p. 110, 1918.

Type-locality: Wedge Bay, Tasmania.

Octaviania densa (Rodway) n. comb.

Hydnangium densum Rodw., *Proc. Royal Soc. Tasmania,* 1923, p. 160, 1924.

Type-locality: Mount Nelson, Tasmania.

Hysterangium lobatum G. H. Cunn., n. comb.

Phallobata alba G. H. Cunn., *Trans. N.Z. Inst.,* vol. 56, p. 73, 1926.

Type-locality: Whakatikei Forest Reserve, Wellington, N.Z.

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* Previous papers were published in the *Proceedings of the Linnean Society of New South Wales,* volumes 49 to 60.

Hysterangium hautu n. sp.

Plants irregularly tuberiform, much shrunken and wrinkled when dry, fresh plants to 4 cm. diameter, drying to 2·5 cm., exterior dingy sage-green, brown where exposed, pallid dingy cream and dull below, attached by a prominent rooting strand. Peridium 300–400 microns thick, of an outer layer of pseudoparenchyma exteriorly coated with a delicate fibrillose layer of hyphae coated with crystals, and a thick inner layer of gelatinized hyphae. Gleba olivaceous, cells irregular, 3–4 to mm., subglobose in fresh plants, traversed by a branched columella; at maturity sometimes becoming gelatinized and collapsing to a thin compressed layer; tramal plates 50–75 microns thick, of gelatinized hyphae; basidia 8-spored. Spores elongate-elliptical, 4–5·5 x 1·5–2 microns, hyaline or tinted, smooth.

Distribution: Auckland, Waimarino, J. C. Neill, Type Collection.

Hysterangium tunicatum n. sp.

Plants subglobose, to 2 cm. diameter, attached by a prominent basal strand, yellowish-brown to ferruginous, somewhat wrinkled when dry. Peridium 350–600 microns thick, readily separable in mature plants, of a single layer of compact pseudoparenchyma. Gleba olivaceous, cells elongate, 2–6 mm. long, arranged radially, partially filled with spores; columella dendroid, arising from a sterile base; tramal plates 80–200 microns thick, composed of densely compacted gelatinized hyphae; basidia 6-spored. Spores fusiform, 11–14 x 5–6·5 microns, tinted yellow, apex acute, base pedicellate, covered with a conspicuous inflated exospore which is more prominent basally.

Distribution: Auckland, Te Aroha, G. H. C.; Nelson, Fringe Hill, G. H. C., Type Collection.

Gautieria novaezelandiae n. sp.

Plants solitary or caespitose, tuberiform or pyriform, 2·5 cm. diameter, from yellow ochre to brilliant iodine green, drying pallid ferruginous. Peridium 400–600 microns thick, of a single pseudoparenchymatous layer, white or cream coloured in section. Gleba chocolate brown, appearing compact, cells minute, 2–3 to mm., subglobose, empty; columella reduced to a few tenuous branches arising from a small sterile base, but conspicuous in developing plants; tramal plates 15–50 microns thick, of gelatinized hyphae, thinner towards the centre and tending to disappear at maturity; basidia 4-spored. Spores elliptical, 11–15 x 8–10 microns, golden brown, apex bluntly pointed, base shortly pedicellate, with 4–5 longitudinal ribs which are rounded and about 2 microns tall.

Distribution: Tongariro National Park, Mrs. J. Carter, Type Collection; Mt. Reeves, Tararua Range, T. C. Birch; York Bay, E. H. Atkinson; Day's Bay, H. Cook, G. H. C.

Gautieria tasmanica n. sp.

Plants subglobose, 1–3 cm. diameter, white, tinged with brown, finally ferruginous, smooth, then dimpled, with a small basal rooting strand. Peridium 250–300 microns thick, pseudoparenchymatous, with a layer of crystals lying between it and the gleba. Gleba ferruginous, cells somewhat irregular, 1–2 to mm., partially filled with spores; tramal plates 50–70 microns thick, of gelatinized woven hyphae; columella much branched, sterile base rudimentary; basidia 2-spored. Spores obovate or obovate-fusoid, 12–16 x 10–12 microns, ferruginous or fuscous, base shortly pedicellate, with 8–10 longitudinal ribs, which are to 3 microns tall, rounded and somewhat anastomosed.

Distribution: Cascades, Hobart, Tasmania, L. Rodway, Type Collection.

Gautieria costata n. sp.

Plants subglobose, 10–15 mm. diameter, pallid brown and wrinkled when dry. Peridium 250–300 microns thick, of woven gelatinized hyphae, hyaline but tinted brown in places. Gleba dark umber brown, cells minute, 3–6 to mm., filled with spores and appearing compact; columella small and freely branched, arising from a small discoid sterile base; tramal plates 15–40 microns thick, of woven partly gelatinized hyphae; basidia 2-spored. Spores elliptical or somewhat obovate, pallid ferruginous, 11–15 x 8–10·5 microns, base shortly pedicellate, with 8–11 longitudinal ribs, bluntly rounded, scantily anastomosed and to 2 microns tall.

Distribution: Mt. Wilson, New South Wales, J. B. Cleland, Type Collection, in herb. Cleland.